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Original Research

Dental and Oral Health Education for Elderly Age Group: Full and Partial Edentulous Teeth Brushing Method

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Abstract

Aims: The objective of this research is to form independent cadres and could provide counseling and training on how to brush full/partial edentulous teeth the right way to the elderly in nursing home. **Materials and Methods:** This descriptive study was conducted with 12 participants with posttest only group design. Participants are given the theory of toothbrushing method of edentulous teeth, practical demonstration, and evaluation. To measure the knowledge level, there is a posttest and socialization ability test for respondents. **Results:** The average achievement percentage of respondents about knowledge and application of the elderly toothbrushing method was 96.67%, and the achievement percentage of respondent's success about the socialization ability was 87.66%. **Conclusions:** Based on empowerment results, most cadres understood about how to brush elderly teeth properly and socialize it to their elderly friends about how to brush their teeth properly.

Keywords: Cadres, empowerment, toothbrushing habits

INTRODUCTION

Dental and oral disease is a disease that affects all age groups, from children to adults, and there is no exception in the elderly group.^[1] One of the health problems in the elderly is dental caries.^[2] Teeth have functions for mastication, speech, and esthetics. Teeth of the elderly may have been damaged and even dislodged, giving difficulties when chewing food. Tooth loss is the most common cause of mastication malfunction. Tooth loss can also affect the oral cavity and general health. Thus, it affects the quality of life as a whole. Tooth loss can be caused by various factors.^[3] The most common cause of tooth loss is the adverse health status of the oral cavity, especially caries and periodontal disease.^[4] Based on the results of the assessment of problems obtained from the previous epidemiological research reports, 47.25% of 91 respondents have poor mastication function. Cross tabulation of decayed, missing, and filled (DMF) index with mastication function stated that elderly population with DMF index >13 is 1.49 times higher to have poor mastication function.

The Public Health Centre has tried to tackle dental health problems in the elderly by conducting some health promotion program. One of them is counseling and providing knowledge

on dental and oral health for elderly. This can also be done with the formation of dental and oral health cadres who play a role in monitoring elderly dental hygiene in the elderly nursing home activities.^[5] Community empowerment method with cadre formation has been applied in Jagir Health Center, Surabaya, East Java. However, based on discussions with the health center staffs, the cadre program has not run optimally. In order to help overcome the high rates of DMF in the elderly, cadres were tasked with learning how to brush the edentulous ridge properly and correctly, to then teach it to peers.

The target of this program is the cadres from nursing house. The aims of this program are that cadres are able to understand how to clean dentures correctly, cadres are able to convey information about how to clean dentures correctly, cadres are able to demonstrate to fellow elderly friends on how to properly clean dentures, and elderly people are able to demonstrate and apply methods clean denture correctly.

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MATERIALS AND METHODS

The sampling used the simple random sampling which was conducted on 12 persons from 8 nursing home for the elderly. All the procedures done in this empowerment were approved by the Health Research Ethical Committee of Airlangga University Dentistry Faculty with letter number 59/KKEPK.FKG/VI/2015. Respondents filled the informed consent before starting the research. Researchers were explaining about objective, procedure, benefit, and confidentiality of research to the respondents before they sign the informed consent.

The empowerment research was carried out in several stages: giving material, evaluating cadres, and counseling by cadres. Respondents were the elderly who were obtained from nursing homes. Initially, a pretest was conducted to measure the level of knowledge of nursing home cadres. Respondents were given counseling about dental and oral health materials, as well as ways to brush their teeth on their jaws which had no teeth. After that, a posttest was carried out to find out how much cadre knowledge increased. If the posttest results reach a predetermined target, the cadres can teach them to other elderly people.

Dental health education method used was a demonstration in front of the cadres. This program was done by individual approach. The demonstration was to demonstrate directly about the correct full/partial edentulous brushing method with a dental phantom that was formed in such a technique as to resemble the anatomical form of the oral cavity of the elderly to make the material more easily to be understood. Furthermore, cadres who are considered to have fulfilled the requirements for counseling were asked to teach other elderly about the material with the same health education media. Other elderly who were taught were reevaluated.

RESULTS

The oral and dental health education program on how to properly brush the edentulous teeth was carried out on 12 cadres from 8 Posyandu for the elderly. The achievement of success obtained from observations on elderly cadres about the knowledge and application of the correct method of brushing teeth for the elderly is as follows [Table 1].

Nine out of a total of 12 cadres received a 100% percentage score for demonstrating the right way to brushing teeth in edentulous ridge. 2 cadres got 90% score and 1 cadre got 80% as the lowest score. Moreover, the average percentage of achievement of the success of elderly cadres about knowledge and the application of the elderly version of brushing is 96.67%.

The achievement of success obtained from observations on elderly cadres about the ability to socialize the correct way of brushing teeth the elderly version is as follows [Table 2].

In the Sari Asih Posyandu, the achievements obtained by cadres about the ability to socialize the correct way of brushing teeth in the elderly is 80%, whereas the attainment of cadres of the Loka

Table 1: Percentage of success achievement on knowledge and application of elderly toothbrushing technique

No.	Cadre name	Elderly nursing home origin	Achievement* (%)	Target (%)
1	Wahyudi	Pelangi Nusantara	100	100
2	Yanti	Sawunggaling	100	100
3	Surya Wijaya	Sari Asih	100	100
4	Mulyani	Pramoda Loka	100	100
5	Soehartati	Pramoda Loka	90	100
6	Sumariyati	Kartika	100	100
7	Siti Rahaju	Kartika	100	100
8	Sulis A.	Mentari	100	100
9	Soetjipto	Mentari	90	100
10	Herryanto	Pertiwi	100	100
11	Sudarwati	Adi Darma	100	100
12	Mita	Adi Darma	80	100

Mean: 96.67%, *Posttest score

Table 2: Percentage of achievement about socialization ability of elderly toothbrushing technique

No.	Cadre name	Elderly nursing home origin	Achievement* (%)	Target (%)
1	Surya Wijaya	Sari Asih	80	100
2	Mulyani	Pramoda Loka	90	100
3	Soehartati	Pramoda Loka	90	100
4	Sulis A	Mentari	87.14	100
5	Soetjipto	Mentari	87.14	100
6	Herryanto	Pertiwi	91.67	100
7	Yanti	Sawunggaling	80	100
8	Sudarwati	Adi Darma	80	100
9	Mita	Adi Darma	91.67	100
10	Sumariyati	Kartika	80	100
11	Siti Rahaju	Kartika	87.14	100
12	Wahyudi	Pelangi Nusantara	90	100

Mean: 86.23%, *Posttest score

Pramoda is 90%. In the Posyandu Mentari, the achievement obtained by the cadres on the ability to socialize the correct way of brushing teeth is the elderly, which is equal to 87.14%, whereas the achievement of Posyandu Pertiwi cadres is 91.67%. Moreover, the percentage of achievement of the success of elderly cadres about the ability in the socialization of the elderly version of brushing is 86.23%.

DISCUSSION

Dental and oral health education program on how to brush the edentulous teeth was conducted on 12 cadres from 8 nursing home for the elderly. The indicator of the success of this program is the increasing knowledge of cadres and cadres can teach how to brush edentulous teeth properly

and correctly in other elderly. This can be seen in the results of observations on the cadres of the elderly about the knowledge and understanding of how to brush the correct version of the elderly. During the implementation of the empowerment program, the demonstration method was used with phantom media, toothbrushes, and posters so that speakers and cadres of the elderly could more easily understand the material.^[6,7] At the time of giving the materials, the voice of the speaker could be heard well by the cadres of the elderly. Many elderly people are active in giving questions spontaneously on the sidelines of the material given so that the atmosphere of empowerment lasts life. After the material has been given, the elderly cadres are tested using indicators of success that have been prepared to ensure that the cadre is ready to go into the community to do counseling.

The results of observations on elderly cadres about the ability to socialize the correct way of brushing teeth are also high. This is known from the results of observations on the elderly at who were given counseling by the cadres on how to brush edentulous teeth in correct way. The way to deliver material from cadres to the elderly was considered quite interesting with the help of phantom (Dental Study Model) and toothbrushes given.^[8,9] There is also an A3 poster-containing material on how to brush the edentulous teeth in correct way which is useful for facilitating the elderly to understand the material provided and to recall it because the poster was given^[10] and left at the Public Health Center.

The limitation of this study is we only conducted pretest and posttest, while the aim of this study is to maintain the habit of brushing denture. For further research, the researcher can conduct comparison between denture cleanser compositions and the effect on using it.

Overall, the elderly can demonstrate how to brush their teeth properly and correctly for the edentulous ridges, and teach the technique to their peers. Furthermore, the elderly at the Posyandu demonstrate and apply how to brush their teeth properly.

CONCLUSIONS

This program is effective to increase elderly knowledge about edentulous ridge toothbrushing method. The cadres managed to convey the material given.

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Conflicts of interest

There are no conflicts of interest.

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